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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,838	07/18/2003	Robert Laun	235.032US1	4779
7590	02/11/2005			
Schwegman, Lundberg, Woessner & Kluth, P.A. P.O. Box 2938 Minneapolis, MN 55402			EXAMINER FRANK, RODNEY T	
			ART UNIT 2856	PAPER NUMBER

DATE MAILED: 02/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/622,838

Applicant(s)

LAUN, ROBERT

Examiner

Rodney T. Frank

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2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☒ Claim(s) 26 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/22/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claim 26 is objected to because of the following informalities: the examiner believes that "means in integrated" should be – means is integrated--. Appropriate correction is required.

Double Patenting

2. Applicant is advised that should claim 29 be found allowable, claim 30 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 15-17, 19-22, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Kumar (U.S. Patent Number 6,046,960). Kumar discloses an apparatus for discriminating true echoes from false echoes in an ultrasonic liquid gauging system, comprising: means for producing electrical representations of an echo sequence received after an ultrasonic transmission, wherein the echo sequence contains one or more returned echoes that may be a true or false echo; and means for determining returned echo energy, wherein echo energy is a factor used to distinguish a true echo from a false echo (Please see the abstract).
4. With regard to claim 15, an evaluation means for determining at least one expectancy range for a filling level echo or a false echo generated by a filling level measurement device,

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wherein the at least one expectancy range is determined in consideration of the temporal behavior of at least two past filling level echoes or false echoes is disclosed in view of column 3 lines 20-38, column 6 lines 20-23, and claims 8-15.

With regard to claim 16, the expectancy being determined by considering the temporal behavior of at least two past filling level echoes or false echoes which may have been assigned in the past is disclosed in view of claims 8-15 and column 6 line 44 through column 7 line 4.

With regard to claim 17, the memory wherein the envelope curve is stored after an A to D conversion with its echo data including the location, time and amplitude in an array of a predetermined size is disclosed in view of column 7 lines 60 through column 8 line 10 and claim 17.

With regard to claims 19-22, the evaluation means being able to assign the detect individual echoes to expectancy ranges in the past for a filling level or false echo, and to determine the filling level from an echo assigned to the filling level is disclosed from column 6 line 44 through column 7 line 4.

With regard to claim 26, the device being in a filling level measurement device is disclosed in claims 19 and 20.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 1-14, 18, 23-25, and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kumar.

7. In reference to method claim 1-14, the examiner will admit that a method for determining at least one expectancy for a filling level echo or a false echo is not explicitly disclosed in the Kumar reference. However, Kumar explains in great detail, and discloses in the specification and the claims a method for determining true and false echoes whereby the steps of determining said echoes utilizes a method very similar to the one claimed.

For example, with reference to claim 1, Kumar discloses a method whereby a first and second echo are identified and assigned to an envelope curve. This is disclosed in view of column 3 lines 20-38. Column 7 lines 1-4 disclose that echoes are expected to occur within a particular time window, which would indicate an expectancy range is determined. Column 6 lines 20-23 disclose that the memory stores information in a temporal manner. Therefore, the examiner feels that the method of claim 1 is disclosed in view of Kumar.

With reference to claim 2, Kumar discloses in column 7 line 2 that subsequent echoes can be expected, thus identifying further echoes would be disclosed for determining the expectancy.

With reference to claim 3, column 6, line 20 for example, discloses the use of transmit/receive cycles.

With reference to claims 4 and 5, since claim 7 lines 1-4 states that subsequent echoes can be expected, where there is no limit set on how many subsequent echoes there can be, then the device determining a new expectancy would also be disclosed.

With reference to claim 6, the details of the method including the limitations of claim 6 is considered to be disclosed in view of the claims of Kumar.

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With reference to claims 7, the data storage technique is not disclosed to be an array, but the overall method whereby the echo data is stored and past data is compared is disclosed in column 7 lines 5-9.

With reference to claim 8, figures 1A through 1C shown that the data includes location, time, and amplitude for the echo data.

With reference to claims 9-13, and 23-25, though the specific mathematical process used may not be disclosed explicitly in the Kumar reference, one of ordinary skill in the art may use any of these techniques in order to obtain data results via a microprocessor and stay in the spirit of the invention. Kumar even alludes to this in column 8 lines 49-54 whereby modifications within the spirit of the invention are disclosed to be apparent to those skilled in the art.

With reference to claim 14, a determination of a data set size is disclosed in column 7 lines 42-53.

With reference to claim 18, though an image processing unit is not explicitly disclosed Kumar discloses that other components, though not disclosed, would be within the spirit of the invention in column 4 lines 3-23.

In reference to claim 27, though a data link is not explicitly disclosed the use of a data link is well known in the art of level measurement and it's implementation in a system would be an obvious design choice, if needed, to one of ordinary skill in the art.

In reference to claims 28-30, since it is disclosed that the controller uses a CPU, then the use of a computer program to control the device, would therefore be disclosed in view of the Kumar reference.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney T. Frank whose telephone number is (571) 272-2193. The examiner can normally be reached on M-F 9am -5:30p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RTF
February 1, 2005


HEZRON WILLIAMS
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